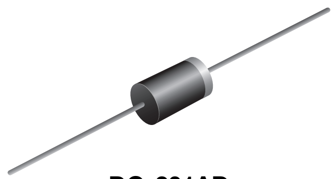
General Purpose Plastic Rectifier



DO-201AD

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	3.0 A
V_{RRM}	50 V, 100 V, 200 V, 300 V, 500 V, 600 V, 800 V, 1000 V
I_{FSM}	200 A
I_R	5.0 μA
V_F	1.2 V
T_J max.	150 °C
Package	DO-201AD
Diode variations	Single die

FEATURES

- Low forward voltage drop
- Low leakage current
- High forward surge capability
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912

RoHS COMPLIANT

TYPICAL APPLICATIONS

For use in general purpose rectification of power supplies, inverters, converters and freewheeling diodes application.

Note

- These devices are not AEC-Q101 qualified.

MECHANICAL DATA

Case: DO-201AD, molded epoxy body
Molding compound meets UL 94 V-0 flammability rating
Base P/N-E3 - RoHS-compliant, commercial grade

Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD 22-B102
E3 suffix meets JESD 201 class 1A whisker test

Polarity: Color band denotes cathode end

MAXIMUM RATINGS (T_A = 25 °C unless otherwise noted)

PARAMETER	SYMBOL	1N5400	1N5401	1N5402	1N5403	1N5404	1N5405	1N5406	1N5407	1N5408	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	300	400	500	600	800	1000	V
Maximum RMS voltage	V_{RMS}	35	70	140	210	280	350	420	560	700	V
Maximum DC blocking voltage	V_{DC}	50	100	200	300	400	500	600	800	1000	V
Maximum average forward rectified current 0.5" (12.5 mm) lead length at T_L = 105 °C	$I_{F(AV)}$	3.0									A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	200									A
Maximum full load reverse current, full cycle average 0.5" (12.5 mm) lead length at T_L = 105 °C	$I_{R(AV)}$	500									μA
Operating junction and storage temperature range	T_J, T_{STG}	- 50 to + 150									°C

ELECTRICAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)												
PARAMETER	**TEST CONDITIONS**	**SYMBOL**	**1N5400**	**1N5401**	**1N5402**	**1N5403**	**1N5404**	**1N5405**	**1N5406**	**1N5407**	**1N5408**	**UNIT**
Maximum instantaneous forward voltage	3.0 A	V_F	1.2									V
Maximum DC reverse current at rated DC blocking voltage	T_A = 25 °C	I_R	5.0									μA
	T_A = 150 °C		500									
Typical junction capacitance	4.0 V, 1 MHz	C_J	30									pF

THERMAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)											
PARAMETER	**SYMBOL**	**1N5400**	**1N5401**	**1N5402**	**1N5403**	**1N5404**	**1N5405**	**1N5406**	**1N5407**	**1N5408**	**UNIT**
Typical thermal resistance	$R_{\theta JA}$ (1)	20									°C/W

Note

(1) Thermal resistance from junction to ambient at 0.375" (9.5 mm) lead length, PCB mounted with 0.8" x 0.8" (20 mm x 20 mm) copper heatsinks

ORDERING INFORMATION (Example)				
PREFERRED P/N	**UNIT WEIGHT (g)**	**PREFERRED PACKAGE CODE**	**BASE QUANTITY**	**DELIVERY MODE**
1N5404-E3/54	1.1	54	1400	13" diameter paper tape and reel
1N5404-E3/73	1.1	73	1000	Ammo pack packaging

RATINGS AND CHARACTERISTICS CURVES (T_A = 25 °C unless otherwise noted)

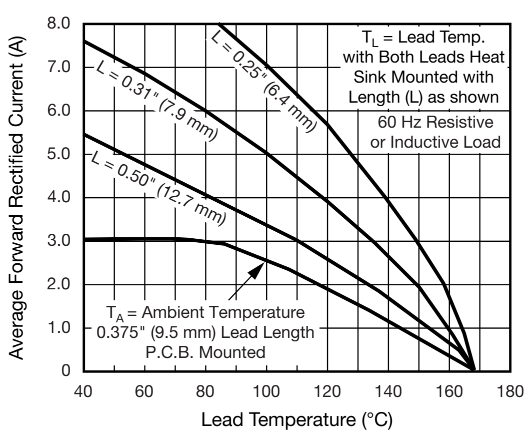


Fig. 1 - Forward Current Derating Curve

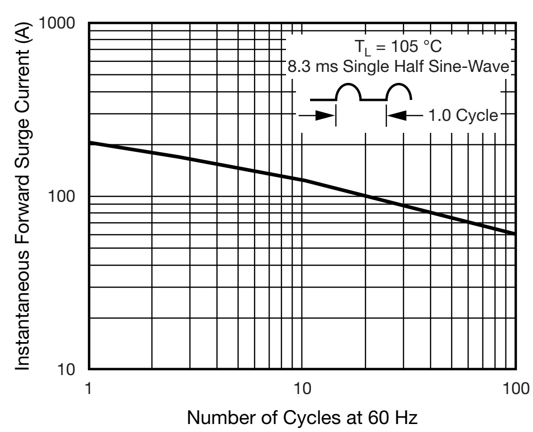


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

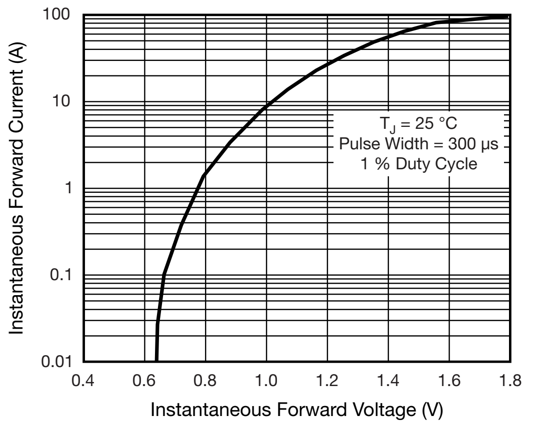


Fig. 3 - Typical Instantaneous Forward Characteristics

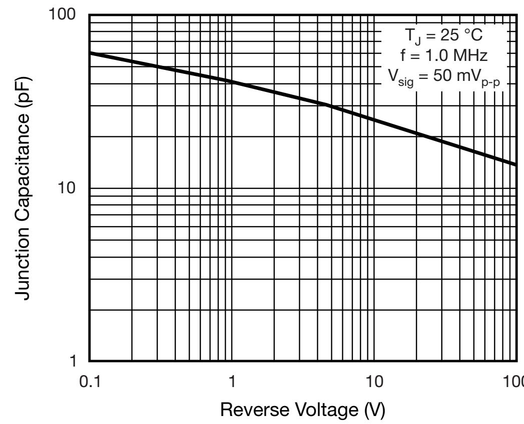


Fig. 5 - Typical Junction Capacitance

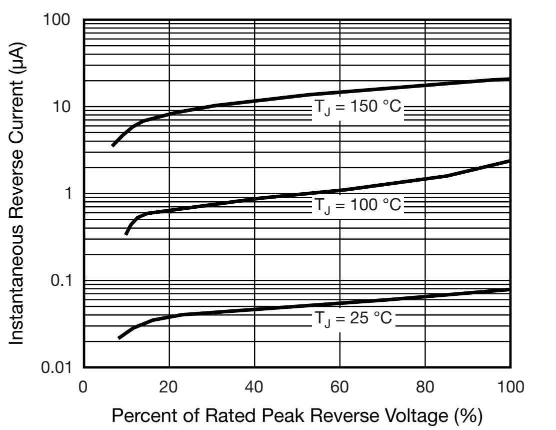


Fig. 4 - Typical Reverse Characteristics

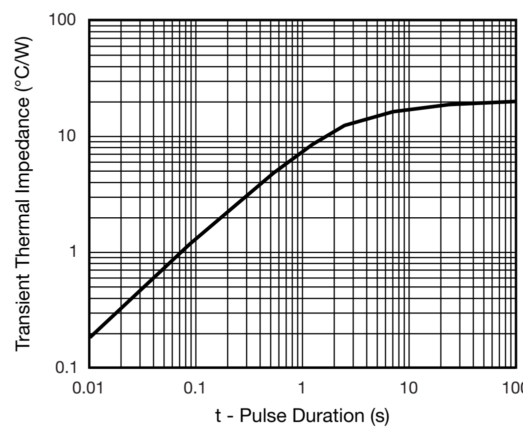
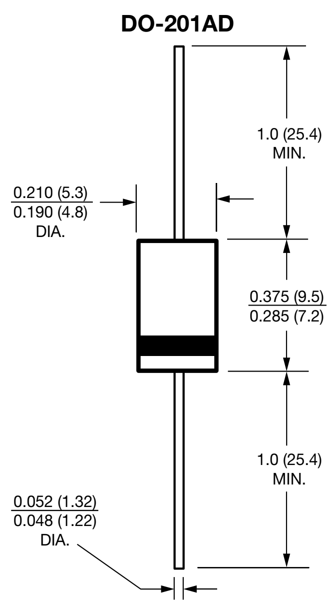


Fig. 6 - Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)



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